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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/680,544	10/07/2003	Vladimir Fridman	P-1187	4997

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EXAMINER

NGUYEN, CAM N

ART UNIT PAPER NUMBER

1754

DATE MAILED: 02/07/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/680,544

Applicant(s)

FRIDMAN ET AL.

Examiner

Cam N. Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on November 18, 2005 (an amendment/response).
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13, 15-19, 24, 27 and 28 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-13, 15-19, 24, & 27-28 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. Applicants' amendment and remarks, filed November 18, 2005, has been made of record and entered. Claims 13 & 24 have been amended. Claims 14, 20-23, & 25-26 have been canceled.

Claims 1-13, 15-19, 24, & 27-28 are currently pending and under consideration.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-2, 5-8, 10-13, & 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zimmermann et al., "hereinafter Zimmermann", (US Pat. 5,378,350) taken together with Kerby et al., "hereinafter Kerby", (US Pat. 5,258,567).

Zimmermann discloses a catalyst comprising chromium and aluminum oxides, at least one cesium metal compound promoter in an amount of 0.1 to 10% by weight of the catalyst, calculated as Cs_2O , and at least one zirconium metal compound as additional promoter in an amount of 0.1 to 15% by weight of the catalyst, calculated as ZrO_2 (see col. 7, claim 1). Zimmermann further discloses that the catalyst comprising an Al_2O_3 support with 10 to 50% by weight of chromium oxide, calculated as Cr_2O_3 ; 0.1

to 5% by weight of a zirconium compound, calculated as ZrO_2 ; and 0.1 to 10% by weight of a cesium compound, calculated as Cs_2O (see col. 7, claim 2). Zimmermann also discloses that the catalyst can contain additional promoters such as scandium, yttrium, lanthanum, titanium, zirconium or hafnium, individually or in combination (see col. 2, ln 21-25). Zimmermann discloses that sodium, potassium, calcium or barium compounds are suitable promoters from the group of alkali or alkaline earth compounds with cesium being more preferably promoter compound for providing a better result and more effective catalyst (see col. 2, ln 12-19).

Regarding claim 1, applicants amended the claims changing from "comprising" to "consisting essentially of" language is noted. The "consisting essentially of" language while limits the claim to specified ingredients or components and those that do not affect the basic and novel characteristics of a composition. See *Ex parte Davis et al.*, 80 USPQ 448. When applicants contend that modifying components in the reference composition are excluded by the recitation of the "consisting essentially of", applicants have the burden of showing the basic a novel characteristics of their composition, i.e., a showing that the introduction of these components would materially change the characteristics of applicants' composition. While applicants are excluding other metal component, such as cesium compound, applicants have not yet shown that the additional material in the catalyst composition of Zimmermann is materially affects applicants' catalyst composition.

Regarding claim 13, upon further review of Zimmermann reference, it appears that while cesium compound is a more preferable promoter compound for his catalyst

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composition, other alkali or alkaline earth metal compounds (which includes sodium, potassium, and magnesium the applicants claiming) can also be used as a promoter as well. In Example 1 of the Zimmermann reference, it shows the final catalyst composition of catalyst 1 prepared contains an alumina support, chromium, zirconium, and potassium promoter. In Example 2, same as catalyst 1, but with sodium promoter. The concentrations of the potassium and sodium promoters in examples 1 and 2 are 2% wt., respectively.

Thus, the only difference between the claims and the Zimmerman reference, is that Zimmerman does not disclose using the magnesium and alkali metal promoter (sodium or potassium) together, and he does not disclose the magnesium concentration either. It would have been *prima facie obvious* to one of ordinary skill in the art at the time the invention was made to have added magnesium to the catalyst of Zimmermann in order to achieve an improved catalyst having promoted activities because it is known as useful catalyst promoter (or modifier), as evidenced by Kerby (see Kerby at col. 12, claims 12-14).

The claimed chromium and zirconium concentrations are met by the teachings of the reference since they fall within the disclosed ranges (see above).

Regarding claim 5, it is considered the process limitation in the claim regarding how the carrier material is made has no bearing on the patentability of the claimed catalyst. Since the disclosed carrier material is the same as the claimed carrier, thus provides for the same catalyst.

With respect to the "chromium material" listed in claims 6 & 8, it is considered that the claimed chromium materials as listed are process limitation. Since the instant claims are called for "a catalyst", the process limitation as being claimed has no bearing on the patentability of the claimed catalyst.

Regarding claim 28, Zimmerman does not disclose the claimed alkali metal promoter concentration. It would have been *prima facie obvious* to one of ordinary skill in the art at the time the invention was made to have optimized the alkali metal promoter concentration in Zimmerman in order to achieve an effective catalyst because it is a result effective variable, in view of *In re Boesch*.

4. Claims 3-4, 15-19, 24, & 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zimmermann et al., "hereinafter Zimmermann", (US Pat. 5,378,350) *taken together with* Kerby et al., "hereinafter Kerby", (US Pat. 5,258,567), as applied to claims 1-2, 5-8, 10-13, & 28 above, and further in view of Hamner (US Pat. 4,212,771).

Zimmermann discloses a catalyst (as described above) in combination with the magnesium and alkali metal components incorporated, which is disclosed by Kerby as discussed above (see the precedent paragraph), except for the carrier properties.

It would have been *prima facie obvious* to one of ordinary skill in the art at the time the invention was made to have utilized such known carrier in Zimmermann because it is known as useful catalyst carrier, as evidenced by Hamner (see Hamner at col. 2, ln 41-61, col. 3, ln 24-27, & col. 6, Table I).

Response to Applicants' Arguments

5. Applicants' amendment and response filed on November 18, 2005 has been fully reconsidered, but not deemed persuasive for the same reasons as set forth in the rejections above and the following reasons.

Applicants' urging regarding the Kerby et al. reference is noted. It should be noted that the Kerby et al. reference was relied on as a secondary reference for the teaching of a known Mg modifier. The rejection made was based on a combination of the references together and not individually. Thus, applicants' argument that the examiner was picking and choosing the Mg modifier out of a list of 27 modifiers taught in the Kerby et al. reference is not persuasive. It is also considered that whether Kerby et al. reference discloses a different catalyst support material does not have anything to do with the fact that the same modifier or such Mg modifier is among the 27 suitable and known modifiers which disclosed by Kerby et al. that are suitable for making catalysts. The question is why wouldn't Zimmermann pick Mg as a modifier for modifying his catalyst?

Applicants' argument regarding the Hamner reference is also noted. It is not found persuasive for the same reason as set forth in the rejection.

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within

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TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Conclusion

7. Claims 1-13, 15-19, 24, & 27-28 are pending. Claims 1-13, 15-19, 24, & 27-28 are rejected. No claims are allowed.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Primary Examiner Cam N Nguyen, whose telephone number is 571-272-1357. The examiner can normally be reached on M, W, R, & F, 9:00 AM - 6:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stanley Silverman, can be reached on 571-272-1358. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Nguyen/cnn *cnn*
February 06, 2006

Cam N. Nguyen
CAM N. NGUYEN
PRIMARY EXAMINER

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